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AUTHOR Hogg, Thomas C.; And Others
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ABSTRACT

The program, Man in the Marine Environment, conducted by the Department of Anthropology, Oregon State University, between July, 1970 and June, 1971, consisted of two major components: (1) research, and (2) direct educational outputs in the form of a series of credit seminars and a public speaker's program. Research, as described in the procedures and findings of this report, was aimed at (1) examination of the relationship of particular cultural systems to the marine environment, (2) inventorying alternative uses of the marine environment by man to satisfy his subsistence, comfort, and ideological needs, and (3) analysis of attitudes of people toward the marine environment and the effects of these attitudes on the marine resources. The component of educational output is detailed through a three-term course of lectures and seminar sessions and the public speaker's program. Course content for each of the three terms is outlined as well as a summary for each of the public speaker's lectures. Speaker's topics considered man, wildlife, the shore, law, aboriginal patterns of adaptation, changing values, folklore, and economic development. Future program developments and anticipated professional relationships are also reported. (BL)

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Man in the Marine Environment

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Thomas C. Hogg, Ethnologist
Courtland L. Smith, Cultural Anthropologist
Wilbur A. Davis, Archaeologist

Marine Anthropological Research Unit
Department of Anthropology
Oregon State University
Corvallis, Oregon

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MARU Report 1

September, 1971

Project Completion Report

Man in the Marine Environment

National Endowment for the Humanities

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Principal Investigators

Wilbur A. Davis, Professor
Thomas C. Hogg, Associate Professor
Courtland L. Smith, Assistant Professor

Department of Anthropology
Oregon State University

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I. Program Summary, Goals, and Objectives

A. Review of Program Intent:

The program Man in the Marine Environment, conducted by the Department of Anthropology at Oregon State University between July 1970 - June 1971, consisted of two major components -- research and direct educational outputs in the form of a series of university credit seminars and a public speaker's program. One archeologist, W. A. Davis; an ethnologist, T. C. Hogg; and a cultural anthropologist, C. L. Smith collaborated in research and educational features of the program which served 62 students and approximately 900 public members.

The major intent behind the Man in the Marine Environment program was to develop a humanistic baseline through basic research and materials review from which a continuing research and educational program might be maintained. We proposed and designed a program to investigate questions of man's aspirations and goals in the marine environment, and we attempted to identify these in relation to technological innovations in the marine environment. The program was designed in line with our own commitment to create a Marine Anthropological Research Unit and Museum of Man and the Sea, developments as yet not totally realized but for which we now have more definite plans.

This program's humanistic orientation derived from its primary concern with goals of people regarding their desired quality of life in the marine environment. The work explored alternative uses made of the marine environment by man through study of prehistorical, historical, and contemporary materials. From contemporary materials, the major focus of the program work was directed toward identifying and clarifying the many goals effecting man in the marine environment.

B. Review of Basic Objectives:

Three research objectives were posed. First we proposed to examine the relationship of particular cultural systems to the marine environment, both in the social, political, and economic structures, and in the attitudes regarding the marine environment. Second, we sought to accomplish an inventory of alternative uses to which man has put the marine environment to satisfy his subsistence, comfort, and ideological needs. Third, we intended to make an analysis of the attitudes of groups of people toward the marine environment and the effects of these attitudes on the marine resource.

Educational outputs of the research directed to the above questions were conceived in two different ways. First was the recognition of a need to educate ourselves as principal investigators by reviewing literature and examining materials from which a less value laden approach to marine cultures might be developed. Second, we proposed to team-teach an upper division course on Man in the Marine Environment and to present a speakers program to broaden horizons of students and public to the interdisciplinary nature of problems associated with man in the marine environment, especially those concerns involving attitudes and goals of people in the marine environment.

II. Research

A. Procedure:

Major data collection activities of the principal investigators were staggered over the summer and fall of 1970. Materials review was continuous through the entire program. Davis and Smith conducted major travel visitations of marine installations, museums, universities; conferred with specialists in several fields; and observed utilization of the California, Oregon, Washington, and British Columbia coasts. Archeological and cultural materials were both collected and analyzed. Hogg's major research activity was conducted in the late summer and fall of 1970 with visitations and consultation in Oregon and Washington.

Archeological work included the collection of photographs of marine archeological sites in British Columbia and Washington. These were then combined with materials from Alaska, Oregon, California, and South America for analysis of time sequences and shifts in aboriginal patterns of subsistence.

Cultural anthropological work included collection of literature, photographs, folklore, and ethnographic descriptions of historical and contemporary marine cultures with special emphasis on the contemporary American West Coast. Additional data were obtained through library and archival sources for Africa, N. E. Brazil, Europe and the Mediterranean, South Asia, and Oceania. Analysis centered upon the isolation of special values and attitudes consistent with marine environmental adaptation, systems of human organization related to marine resource exploitation, and general evidence of cultural adaptation to the marine environment. Frequent seminars were held over the data collection period to review materials and to explore their implications for attitudes and values of marine peoples considered. General findings were recorded and became the basis for course materials.

B. Research Findings:

1. General research findings can be considered under the following headings:

a. The earth is a marine environment. Hard and fast distinctions between such ecological zones as tundra, coniferous forests, deciduous forests, deserts, savannah grasslands, etc., are products of conceptualizations in Western culture. There exists a real and fundamental relationship between the hydrologic cycle, food chains, gaseous and sedimentary nutrient cycles, ecological communities, and estuarine systems as parts of the greater marine system. Man, no matter where he lives is always in and subject to the marine environment. This physical fact is not, however, a commonly accepted concept among peoples with a European culture base who are more prone to conceive marine as limited to oceans.

b. Culture is just as much a maladaptive mechanism as an adaptive mechanism for man in the marine environment. All human cultural systems do not show the same adaptations to the marine environment even though their members live in direct proximity to the sea. Many peoples, among them many Western peoples, have transferred terrestrially oriented and derived values and attitudes to the sea. This is as true of the present as it is of

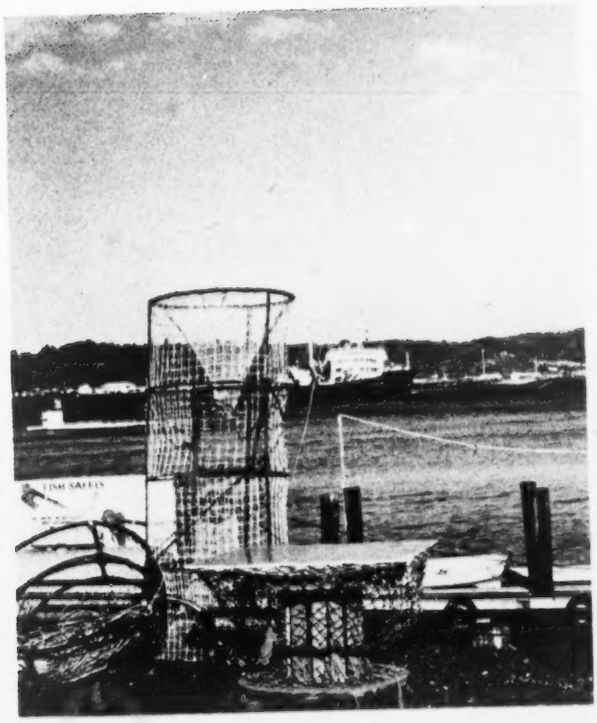
the past. Concepts such as unlimited abundance of the sea, leading to over-exploitation and marine pollution, are both the product of a hunter or secondary agrarian value system applied with an industrial technology.

c. Man is a newcomer to the sea. Present evidence indicates that man's documented adaptation, covering 5-10 million years, is fundamentally terrestrial. Nowhere in the known world has man been observed to have been an animal oriented toward the sea for more than 10,000 years. Terrestrial origins and subsequent orientations over the millenia provide only minimal evidence of world wide maritime adaptation and present human values in a comparative sense suggest man's novice station.

d. Marine traditions and expert knowledge, though few in occurrence, have developed in many parts of the world. A partial list includes the Malayo-Polynesians, Phoenicians, Scandinavians, Europeans after the 14th century, Northwest Coast Indians, Tierra del Fuegians, Eskimos, Swahili, Kru.

e. There is a great deal of diversity in attitudes toward the sea that are reflected in the literature of Euro-American culture, e.g., love and hate, masculinity and femininity, man one with the sea and man against the sea, serenity and tempestuousness, anthropomorphized and non-anthropomorphized, understanding and fear, something to be dominated and something dominating, vast and circumscribed.

f.



Man has entered into exploitation of the marine environment with the ideology of a hunter or sedentary farmer but with a very efficient technology which makes it possible for near extermination of species of marine life, e.g., whale, fur seal, herring, California sardine, Atlantic mackerel, Newfoundland cod, etc.

g. European values in comparison with other peoples' have remained appropriate to previous land-based activities and exploitation of land resources. With the late emergence of scientifically augmented technologies, the exploitive interaction patterns of Euro-American peoples have had a profound influence over the earth's marine face. Only recently is there evidence of a realization by Euro-American peoples that they are the reciprocals of the sea and that they must exercise appropriate caution in the marine environment's exploitation.

h. Western man has the attitude that a marine creature which dies a natural death is a wasted creature. Such a view fails to acknowledge the food chains and sedimentary nutrient cycles.

i. Man is faced with the problems of adapting to his marine environment. This adaptation

is inherently nonpredictable; it requires flexibility, diversity, and continuity in order to assure adjustment to environmental change. The future holds an adaptive requirement that man must not only develop an efficient and effective technology to exploit the ocean resources of the earth, he must also organize and orient himself in ways both ensuring his and the sea's survivals, basing his actions upon values which provide alternatives for his maintenance in earth, the marine environment.

2. Additional Findings:

The following findings represent hypotheses for further examination and are developed especially in reference to American peoples in the marine environment.

a. Migration of native American peoples along the West Coast of North America was not from north to south as previously supposed, but evidence now indicates that initial migration was inland with a fanning out to the coast. The coastal migration of a marine cultural pattern was northward, especially from California to Oregon and Washington.

b. Native American adaptations to the marine environment are limited in occurrence but may have an antiquity equal to those of the Old World. Earliest evidence today reveals a marine orientation of native Americans

to have occurred as early in Tierra del Fuego as in Alaska and the Northwest Coast of North America. California data suggest maritime developments as early as 8000 B.C.

c. Those contemporary people on the West Coast of the United States who made the greatest direct use of

the marine environment were new immigrants, primarily Chinese, Japanese, Italian, and Portuguese. Most Anglo-Americans were land oriented.

d. Descriptions of recreational experience indicate that the availability of marine life for recreational exploitation has declined during the past one hundred years of Anglo exploitation of the West Coast.

e. Contemporary recreation development on the West Coast has focused around ports as centers of trade. San Francisco's Fisherman's Wharf is most outstanding in this regard. Every other West Coast port has some scheme for recreational use of port areas.

f. World War II military expenditures were the single most important factor in port development along the West Coast. The residual of this is that the U. S. Government currently controls many desirable water front areas.

g. The management of estuaries for man must be conceptually separated from considerations involving the preservation of estuaries. Mission Bay, San Diego

and San Francisco Bay are examples of estuaries which are managed for the satisfaction of a single species, Homo sapiens.

h. Pollution must be recognized as a value laden concept. It obtains its definition based on human tastes and preferences. The oceans of the world have always been subject to pollution from land and through the hydrological cycle so, too, has the land.

C. Subject Categories for Data Acquired:

1. Marine Environment:

a. fish, fisheries, fishery products
b. fishery
c. marine products
d. marine resources
e. ocean life
f. estuary life
g. sea resources
h. marine ecology

2. Man:

a. influence of environment
b. influence of climate
c. fishermen, fishing, fishing boats
d. seafaring life

e. ethnic groups
   1. Chinese
   2. Finns
   3. Italians
   4. Japanese
   5. Norwegians
   6. Portuguese
   7. Slavs, Serbs, Croatian
   8. Yugoslavs
   9. American Indians
f. festivals
g. population distribution
h. recreational activities
i. marina

3. Marine Disasters:

   a. shipwrecks
   b. storms
   c. pollution

4. Sea in Art and Linguistic Products:

   a. literature
   b. songs
   c. stories
   d. yarns
   e. tales
   f. marine painting
   g. marine architecture, naval architecture

5. Sea Travel:

   a. ocean travel
   b. sea routes
   c. trade routes
   d. maritime transportation

6. Marine Law:

   a. maritime law
   b. sea power (military)

D. Agencies Contacted in Research:

1. Balclutha, Floating Museum, Fisherman's Wharf
2. "Breast O' Chicken Tuna" factory tour, San Diego
3. Cabrillo National Monument and Museum, San Diego
4. Centennial Museum, Vancouver, B. C.
5. Chinese Historical Society of America, San Francisco

6. Corvallis League of Women Voters Unit Meeting on Estuaries
7. Huntington Library, San Marino, California
8. La Casa de Rancho Los Cerritos, Museum and Reference Library, Long Beach
9. Laguna Beach Festival of Arts and Sawdust Art Festival
10. Long Beach Chamber of Commerce
11. Long Beach City Library
12. Long Beach Harbor Commission
13. Los Angeles Chamber of Commerce
14. Los Angeles Harbor Department
15. Los Angeles Public Library
16. Mariners Museum, Vancouver, B. C.
17. Museum of Naval Maritime History, San Diego
18. Oregon Historical Society Museum and Library, Portland
19. Oregon State University Kerr Library
20. Port of Oakland
21. Port of Portland
22. Pueblo de Los Angeles State Historic Monument
23. San Diego Chamber of Commerce
24. San Diego Department of Recreation - Pauline des Granges (interview)
25. San Diego Harbor District
26. San Diego Public Library
27. San Francisco Maritime Museum
28. San Francisco Maritime State Historic Park
29. San Francisco Port Authority
30. San Francisco Public Library
31. Scripps' Thomas Wayland Vaughn Aquarium Museum
32. Sea World, Mission Bay, San Diego
33. Security Pacific Bank
34. Serra Museum Library, San Diego
35. Simon Frazer University Library, Vancouver, B. C.
36. The Star of India, Maritime Museum, San Diego
37. Southwest Museum and Library, Los Angeles
38. University of British Columbia Library
39. University of California, Berkeley, Doe Memorial and Bancroft Libraries
40. University of California, San Diego, Baja California Collection (collection not available at time of visit)
41. University of California, San Diego, Scripps Institution of Oceanography Library
42. University of Oregon Library
43. Vancouver Public Library
44. Victoria Maritime Museum

E. Interviews, Seminars, and Conferences:

1. Cagey, Mr. Sam, Assistant Chairman, Lummi Tribal Council
2. des Granges, Pauline, San Diego Recreation Department
3. Greenfield, Phil, UCSD anthropologist
4. Heath, Dr. Wallace, Lummi Aquacultural Programmer
5. Lonegren, Jim, San Diego

6. Makah Tribal Council, Neah Bay, Washington
7. McNeil, Dr. William, O.S.U.
8. Moore, Ben, Oregon Coast Economy
9. Pratt, Ivan, O.S.U.
10. Sinnhuber, Dr. Russell O., O.S.U.
11. Smith, Linda, analysis of marine poetry

F. Observations:

1. Bellingham, Washington
2. Bremerton, Washington
3. Coos Bay, Oregon
4. Fisherman's Wharf, San Francisco
5. Hoods Canal, Washington
6. Huntington Beach, California
7. Jack London Square, Oakland
8. Makah Indian Reservation, Washington
9. Marina del Rey, Santa Monica
10. Mission Bay, San Diego
11. Neah Bay, Washington
12. Newport, Oregon
13. Oregon Coast
14. San Diego Bay - Embarcadero, Shelter Island, and Harbor Island
15. San Francisco Bay
16. Sausalito, California
17. Seattle Washington, Harbor
18. Straits Island and Victoria, B. C.
19. Tacoma, Washington
20. "20 Miracle Miles", Oregon
21. Vancouver, B. C.
22. Vancouver Island and Victoria, B.C.

III. Education:

The educational components of the program formally consisted of the three-term course, Anth 407, Man in the Marine Environment, and the concurrent public speakers program in the Spring quarter. A total of 62 students enrolled for the course over its three quarters. They represented the following subject matter fields and schools of the university:

1. Humanities
2. Social Sciences
3. Science
4. Agriculture
5. Engineering
6. Education
7. Business and Technology

A small number of auditing students attended seminar course meetings on intermittent bases.

Attendance at the public lectures was initially constrained by room size. Approximately 900 persons attended over the eight week-eight session series. Each of the public lectures was followed by a smaller seminar session for course enrollees, interested citizenry, faculty, and the speaker for that session. Attendance at these sessions averaged 30.

A. The Course:

The course, Man in the Marine Environment, was offered as a seminar series, repeatable for credit over the Fall, Winter, and Spring quarters of the 1970-71 academic year. It was listed as Anthropology 407 and carried graduate credit. Enrollees were primarily upper division and graduate students from seven of the University's major schools.

1. Fall Term

a. Smith was the primary instructor for the course in Fall term. The course dealt primarily with man and marine ecological processes using contemporary American West Coast data. Twenty-four students were enrolled from the schools of Humanities and Social Sciences, Science, Agriculture, Engineering, and Education. Most students were upper-classmen and graduates. The course was taught as a lecture/discussion.

Students wrote three short papers. In the first assignment, they were asked to take an ecological cycle, process, rhythm, etc., and add man as a component. The second assignment asked that students select a literary work or planning document and identify the predominant human attitudes reflected in the work's presentation. The third assignment required the integration of the previous two. This assignment required putting together man as a component in an ecological cycle, process, rhythm, etc., and also required the identification of the attitudes of the people involved toward the marine resource.

b. The course content was divided into seven main areas of discussion (see Appendix A).

1. Man and marine ecological processes - This included a hypothesis of population decline as a result of man's relation to the sea to show the need to merge natural science facts with social facts and to emphasize the need to include man as an element in ecological processes. This hypothesis raised the question of human adaptability, which was defined as the continuity of an organism based on the ability to reproduce.

2. Man's exploitation of marine life - Here concern was with the over-exploitation of marine life, such examples as abalone at Laguna Beach, the San Diego tuna fleet, the herring along the Coast of British Columbia, and interdependency between populations of marine life were used as examples to show exploitation to the point where no benefits acrue to anyone. Central to over-exploitation of marine resources is how to manage public goods. Specific solutions to this problem as the fur seal, green sea turtle, and the Pacific salmon were used to identify possible alternative management schemes.

3. Evaluation criteria - How are we to know what should be done in terms of managing the marine environment? This implies some criterion or set of criteria with which to evaluate actions and programs. Economic feasibility, sustained yield, efficiency, and adaptability were some of the criteria studied. Adaptability, the continued existence of the human species, emerged as the criterion which should receive the greatest attention. Yet study of the philosophies of the developmentalist, conservationist, and preservationist suggest that there are several socially recognized issues which have to be worked out for acceptable environmental management.

4. Basic values in marine exploration - This covered the European perceptions of the earth at the onset of the Age of European Exploration, goals stimulating their exploration, the logistics of exploration, and explanation of the power of Europeans over others. European seafarers were compared with people of the Pacific showing a different set of goals, and illustrating that European goals were by no means absolute.

5. Attitudes and goals toward the sea as reflected in planning documents, poetry, song, and literature - Planning documents studied included Public Law 89-454, the Marine Resources and Engineering Act and Our Nation and The Sea, a report of the National Council on Marine Science, Engineering, and Resources. Values are also shown in artifacts and their content. The film, "Conquest of the Sea" and a slide-illustrated poetry lecture prepared by Linda V. Smith, were used to illustrate values reflected in man's productions. A discussion of student papers also analyzed people's values, attitudes, and goals.

6. Development of the West Coast Communities - The background and history of development of San Diego, Long Beach, San Pedro, San Francisco, Oakland, and Vancouver was covered. The reasons for development such as military facilities, railroads, inland exploitation, etc., and included analysis study of documents regarding philosophy, developmental purpose, ecological concerns, financing, and economic competition.

7. Contemporary peoples of the West Coast - Covered people and what they do - Chinese, fishing and shrimp camps in San Francisco Bay; Japanese, fishing; Portuguese, fishing; Norwegians, ship's captains; Finns, B. C. fishing cooperative; and Italians, fishing. A student report on Coos Bay included historical descriptions of the environment, persistent perceptual issues, and present conflict.

2. Winter Term

a. The class was taught by Hogg and Davis with Hogg primarily responsible for the course the Winter term. Eighteen upper-division and graduate students were enrolled coming from the schools of Humanities and Social Science, Science, Engineering, and Education.

b. The course content this term included a world overview of aboriginal patterns of marine adaptation. Regional comparisons were made involving North America, South America, Oceania, Asia, Africa, and Europe (see Appendix A).

1. The course introduction was given by Wilbur Davis in which he explained the student presentations and guest lecturers.

2. Richard Ross, archaeologist, spoke on the "Prehistory of Arctic North America." He discussed the early migration across Beringia at about 26,000 B.C., early sites in Alaska, evidence of an early marine orientation with old whaling culture dating 1800 B.C., the Denbigh Flint Complex showing a balance of sea-land orientation which was probably seasonal, and the Northern Canada and Hudson Bay area showed the marine orientation of Arctic peoples. He pointed out that evidence of early sea orientation varied with the areas.

3. Ethnologist, Carl Brown, followed Ross's presentation with a discussion of ethnography and cultural change of the North American Arctic. Brown described the arctic environment, although severe, is a very delicate one. He discussed myths, religion, subsistence activities, pointing out the more complex organization, west, along the Alaskan Coast, less to the east, and ideological orientations which showed that maritime food is important for survival because of the little fat on caribou that the inland Eskimos use for food. He presented a series of slides of the area as it is today. In conclusion he mentioned the high accident mortality of the people, their fear, and the severe challenge of working on ice.

4. Wilbur Davis, archaeologist, spoke on the Pacific Northwest Coast. He addressed the major tribal and linguistic divisions and discussed major migration routes that the people followed. According to Davis, people were oriented toward a water focus. With the Japanese Current supplying warm water to the coast it became important for positioning of homes. The area was rich in marine resources, had a complex woodworking technology, and specialized systems of exchange, including the potlatch system. Davis presented slides indicating tools used which would seem to indicate marine orientation circa 2300 B.C. The popular idea of people moving south along the coast was challenged by Davis, who finds no maritime orientations to the North until 1500 B.C. He suggested a plank canoe migration toward the north from the south.

5. Thomas Hogg, ethnologist, discussed marine natives of Tierra del Fuego, South America. Tribes in this area consisted of the Yahgan, Alacaluf, Chono, and Ona of the Magellanic Archipelago; together with the Tehuelche, Poya, and Puelche of Patagonia; and the Pampa of Argentina. Southern coastal groups (Yahgan, Alacaluf, and Chono) were predominately canoe people, fishermen, and gatherers of sea food. They adapted to extreme temperatures and wore little clothing; their chief weapons consisted of the spear, harpoon, sling, and club. The Ona were predominately land-oriented people, hunters of guanaco, well-clad, and used the bow and arrow. Hogg discussed prehistory and tools used going through their development. He explained the continuing confusion about the origin, canoe people, and their migration. A detailed presentation of the Chono showed their resources,

technology -- canoes were used with travel almost totally by water -- their human organization, social system, and ideology.

6. William Stuart, ethnologist, of the University of Oregon offered a presentation on Oceania, discussing the cultural ecology of the region focusing on Micronesian adaptation to the arid Pacific. Stuart offered a model of system adaptation to eco-systems, discussed the sustaining values of chiefdom systems in the Pacific, and offered a detailed example of system adaptation through forced migration in the Pacific.

7. The remaining portion of the term was devoted to student presentations of their research topics. Presentations offered were of broad regional scope. They included:

   (a) Aspects of Polynesian Marine Technology as Applied to Polynesian Origins
   (b) The Coast Malay, A Marine People of the Malay Peninsula
   (c) The Siamese Gulf - Vietnam Area
   (d) Ceylon
   (e) India's Riverine - Marine Relationships
   (f) Madagascar
   (g) East Africa and the Marine Environment
   (h) The Fellaheen and the Nile
   (i) Man-Lacustrine Environment: East African Lakes
   (j) West Africa
   (k) Class Structure and the Marine Environment in Northeastern Brazil
   (l) Cyprus
   (m) Germany
   (n) Scandinavia

3. Spring Term

   a. The course was jointly conducted by Davis, Smith, and Hogg with Davis assuming primary responsibility. The course design called for class meetings following each of the public lectures (with speaker), and three additional sessions for coordination and review. The course focused upon present issues of the marine environment. Twenty students were enrolled this quarter from the schools of Humanities and Social Sciences, Science, Engineering, Education, and Business and Technology.

   b. The course content was generally guided by topics of Public Speakers Program (see Appendix A). Student research topics and papers, were presented to seminar enrollees. Student topic selection was their own and resulted in the following pattern.

Public Speaker Topics	Student Research Topics
1. Man in the Marine Environment: Theoretical Overview	Local Resident Perception of Estuaries
2. Wildlife and Environmental Quality	The Near Extinction of the Sea Otter Curry County Predator Elimination
3. The Shore: Crowded Interface	Beachside Buildings Man-Land Relationship in State Parks of Clatsop County, Oregon
4. Public Goals and Marine Law	Electrical Power, the Environment, and "Public Interest" Columbia River Pollution Interbasin Water Transfers
5. Aboriginal Patterns of Adaptation	Selected Diving Cultures and Human Physiology Aquaculture and the Lummi Indians
6. San Francisco Bay: Development and Conservation	Production and Recreation and Lake Michigan
7. Folklore and the Sea	Creation Myths of Marine Cultures Steinbeck's Ecological Philosophy
8. Economic Development and Environmental Quality	Pacific Coast Timber and the Marine Environment Seafood Acceptance Nuclear Wastes and Marine Environment Environmental Problems

B. Public Speakers Program

1. This component of the program consisted of eight public lectures over a period of eight weeks during the spring quarter. Overall attendance was approximately 900, ranging from faculty and students to interested residents of the community. Speakers varied including a commercial fisherman, marine ecologist, environmentalist, lawyer, folk singer, agency officials, and academic professors. Topics included aboriginal man in the marine environment, San Francisco Bay, attitudes towards the sea in song, marine law, and economic development related to ecology of the marine ecosystem.

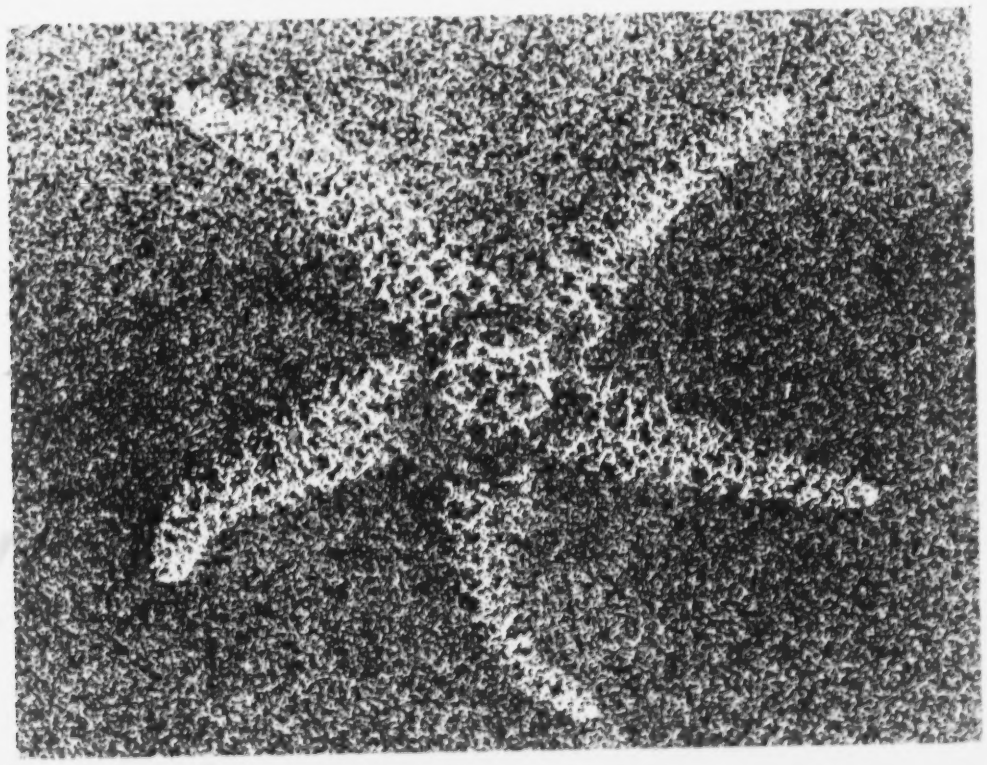
2. Public Lecture Summaries

a. Man in the Marine Environment. This presentation was an introduction to the lecture series with Davis, Hogg, and Smith contributing. Davis gave an introduction to an audience of about 150.

Smith emphasized the entire earth as a marine environment with man, no matter where he lives, in that marine environment. He discussed different cultural systems such as the Malayo-Polynesian and Vikings to show different adaptations to the marine environment. He offered evidence of man's present culture over-exploiting marine resources and using the ocean as a great garbage dump. Davis addressed prehistory which indicated marine transportation 10,000 years ago in the Channel Islands off the coast of Southern California. However, man's marine adaptations were land-oriented to serve the needs of a land-based society. Hogg compared the cultures of the Malayo-Polynesians, American aboriginals, and Africans and pointed to the Malayo-Polynesians having one of the earliest and most complete adaptations to the sea. Origins and history of the Mediterranean and Malaysia were compared by Davis. Smith discussed the European philosophy of getting something for little or nothing which led them to travel extensively with flimsy ships to obtain the wealth they desired. In conclusion, Hogg stated that man is still a newcomer to the sea and must base his actions upon values which provide alternatives for his own maintenance in earth, the marine environment.

b. Marine Wildlife as Indicators of the Quality of the Environment. Felix Smith, by using the marine wildlife, brought up the question of whether man's actions on the environment as it affects animals is an indication of what man is doing to himself. One example he used was

the Black Brant, a small sea goose of the Pacific Coast, which migrates along the Pacific Flyway from Alaska to Baja California. Records kept for 23 years show annual fluctuations, but the total population has remained the same. Local population has changed with the number of wintering Black Brant in California in the late 1940's (66,000) to the late 1960's (200).



The population is increasing along the mainland coast of Mexico which lends credence to the view that man's activities, harassment, disturbance, etc., are the key to the reason for the shift. Smith asserted that man's activities that have been labeled as progress have meant little else but trouble for wildlife. He maintained that wildlife and their self-renewing support systems are trying to tell us that something is wrong.

c. The Shore: Our Crowded Interface. Joel W. Hedgpeth talked about the fascination a body of water holds for man and pointed to the cultural value that seashore exists for all people. He pointed out that people have the feeling that the shore with the action of the waves and tide is a perpetually renewing part of the world. So, it becomes a dumping ground. He illustrated his talk with slides of the coast showing polluted and unpolluted beaches. He further discussed commercial interests which lead to condominiums that are part of progress. Because the shoreline is limited, each

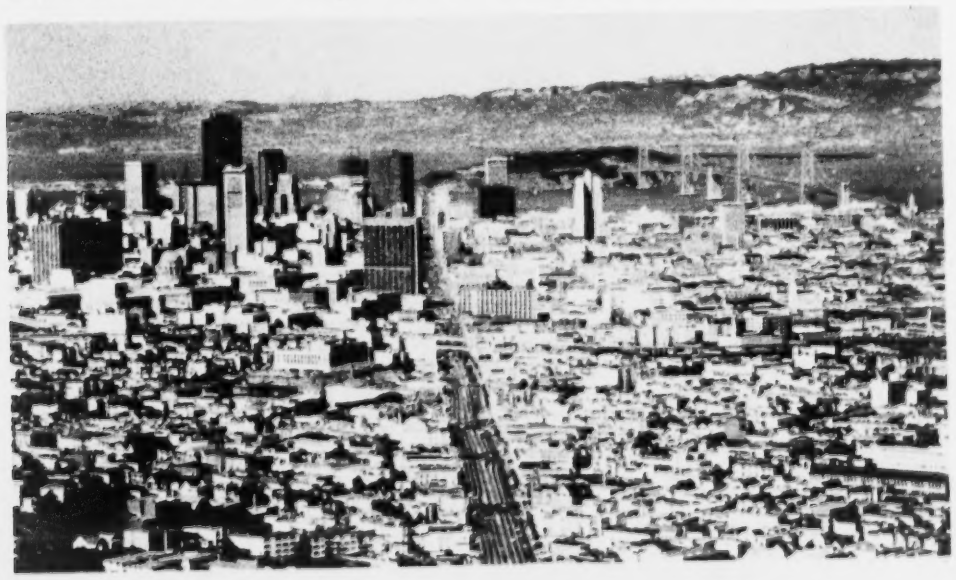
person's share of the shore is more than the statistical reckoning of centimeters per capita, it is in part his life.

d. Marine Law and the Implementation of Public Goals. Peter Herman, in discussing legal questions about public use of water resources developed the concept of consent in which he pointed out that laws really do serve the public. On the beaches the state owns wet sand areas for the public. In the Oregon beach

case the court ruled that the state owns the dry sand area also. Other points brought out included taxable beach land and law by common usage. There was an interesting and lively discussion which continued during the informal period.

e. Aboriginal Man in the Marine Environment. Anthropologist Wayne Suttles, used the Coast Salish of Washington and British Columbia to explain man's relationship to the sea. He mentioned that fishing was very important to the Salish insofar as it was their main source of food. Taking whales was not a common practice. He pointed out that the Salishan way of life had developed over many years and through the use of techniques that fit the area. Dried salmon dipped in oil was a good source of food in the winter. Alternatively, on dry land they hunted deer and birds, especially waterfowl which were taken with nets on poles. Some of the old people living along the coast today are good sources of information to know how the people lived then, and to develop ideas of value changes among the Salish.

f. San Francisco Bay, Changing Values and Implications for Action. The San Francisco Bay reflects a diversity of human values to be served. Alvin Baum explained some of this through lecture, slides, and maps of the



Bay area. Between the years of 1850-1965 vast sections of marshes were destroyed. Mudflats have been used for garbage and the Bay itself has been used for dumping. People now cry, "Save our Bay." The San Francisco Bay Conservation and Development Commission rose out of this interest and is trying to preserve the Bay while getting the best possible use for man from it.

g. Attitudes Toward the Sea in Poetry and Song. Barre Toelken brought a new perspective on man and the marine environment with folk-songs reflecting the tradition of maritime peoples. Oral traditions are closely attuned with human feelings and can be as accurate as written facts. He showed how a song changed from area to area reflecting the background of the people. Cowboys sang of the sea and sailors sang of things they would do when reaching shore. The songs revealed different emotions of the people, lonely sailors at sea, relatives at home waiting for the ships to come in. The audience joined in several choruses.

h. Development and the Marine Environment. A panel discussion included Mr. Robert Ziak; a logger, member of the Sierra Club, and on the Board of Directors of the Oregon Environmental Council; Dr. Wally Heath, representative of the Lummi Indians; and Craig Cochrane, a commercial fisherman. All three of the panelists were concerned about environmental enhancement in the face of pressure for continued economic growth. Craig Cochrane was worried about the fisherman because of decreasing fish catches and interference by the

Russian fishing fleet. Ziak had seen eagles nesting while logging and the tree was later cut down. Heath explained the Lummi's aquaculture project, an economic venture, as the best solution for an impoverished tribe and a threatened tideland area. Questions from the audience provided a chance for the panelists to further express their views. A film of the Lummi's aquaculture program concluded this session and the series.

3. Preparation of the Speakers Program

   a. This program received the most compliments from students and people outside the University. They liked the diversity, scope, and orientation of the program. The only major criticism was that the points of view of the speakers tended to be too environmentalist. Our experience, however, has been that with increasing knowledge about man's impact on the marine environment the individual's concern increases and his remarks are more like those of an environmentalist.

   b. Scheduling such a program is a difficult task requiring careful attention to such factors as:

      room size in relation to expected audience
      other competing activities, i.e., student exams and extracurricular activities, shift in time from standard to daylight savings time, the interest span of the audience (this is not so much a problem for each session but rather relates to the duration of sessions).

   c. The seminar session after the talks was enjoyed by both those in the audience who attended and the speakers. The speakers, especially, enjoyed the opportunity to discuss in more depth the ideas which they presented in their talks.

   d. The most popular session was the final one in which we organized a discussion between three individuals directly effected by and involved with the marine environment. The interchange and the emotional involvement by the participants were the strong points.

IV. Future Developments

Developments from the program are many and diverse. Not the least of these is the orientation of the program staff to continue work in the subject matter area in order to sharpen inquiries started over this past year. Another important aspect was to

stimulate future development of student and public interest in the subject of man in the marine environment. Requests have been received from students who desire that the course be offered again in the coming year rather than to wait for alternate year offerings. Numerous inquiries from professionals in a wide variety of fields, in addition to the public, have requested a similar public speakers program for next year as well as materials from this one.

Although it is presently impossible to specify numbers, we feel that the program very successfully sensitized numerous students, faculty, and public members to the importance of attitudes and values in understanding the present marine environment. Some of the students in the program have explained their new orientation and commitment to advanced study of these elements of the marine environment. Two of these have planned their Ph.D. dissertations in resource geography as partial outgrowths of this course. Some anthropology students have generated strong feelings about advanced study of marine cultures, both past and present. We can only hope that members of the public will, in the future, employ elements of the program in their evaluations and judgements about man's role in the marine environment. As to the faculty's future goals and attitudes, we can express a stronger commitment to communicating knowledge of man's attitudes and values in marine or any other environments. It has been a refreshing experience to travel the less taken road in social science. Interactions with specialists in many other fields has added substantially to the breadth of our own orientation and expertise as anthropologists. Our goals to better communicate knowledge of man's marine oriented values will be served through subsequent course work, publications, and public lectures.

More tangible evidence of the future can be offered in terms of professional relationships stemming from experience with this program. Cooperative ties have been formally established with the Marine Anthropology Group at the Memorial University of Newfoundland, Canada; with staff of the Institute Development of Environmental Awareness, Department of Fishery's in Bangkok, Thailand; and with staff of the University of Wales' Institute of Science and Technology. Additional relationships have been affected with folklorists at the University of Oregon, the Lummi Indian Tribe of the State of Washington, and staff members of the U. S. Fish and Wildlife Service. Congratulatory remarks have been recieved from Senators Mark O. Hatfield, Robert Packwood, and Congressman Wendall Wyatt as well as numerous other agencies.

As a direct result of the program the Department of Anthropology has established a Marine Anthropological Research Unit (MARU) to coordinate and stimulate further programs in this field at Oregon State University. This unit will initially encompass archeological, physical anthropological, linguistic, and cultural anthropological researches and curriculum on marine topics. Expansion is anticipated with future research and curriculum growth. Plans are being made to

propose the development of a Museum of Man and the Sea in conjunction with Oregon State University's Marine Science Center at Newport, Oregon. Plans are now being made to publish the public speakers portion of the program with the principal investigators serving as editors and contributors.

V. Appendices

A. Course Outline

1. Fall Term

a. Man and Marine Ecological Processes

1. Hypothesis of population decline
2. Adaptability

b. Man's Exploitation of Marine Life

1. Over-exploitation of marine life
2. Solutions to the common property problem

c. Evaluation Criteria

1. Group discussions to identify and rank criteria
2. Conflicting criteria for evaluating man's use of the marine environment

d. Basic Values in Marine Exploration

1. European perceptions of the earth
2. Goals stimulating exploration
3. Physical facts of European exploration
4. Explanation of the power of Europeans
5. Contrasting example in the Pacific with different goals

e. Attitudes and Goals Toward the Sea

1. Planning documents Public Law 89-454 and Our Nation and the Sea
2. Poetry lecture illustrated with slides
3. Songs of the Sea, Dr. Barre Toelken
4. Values as reflected in man's artifacts
5. Values as reflected in the organization of knowledge about the sea
6. Discussion of student papers analyzing people's values, attitudes, and goals

f. Development of West Coast Communities with an Emphasis on Ports

1. Background, chronology, history of development
2. Reasons for development
3. Analysis of port documents

g. Contemporary Peoples of the West Coast

1. Why are the people oriented toward the sea and what do they do
2. Coos Bay - a preliminary report

2. Winter Term

a. An Ecological Framework for Cultural Materials

1. General questions to be approached by research
2. Identification
3. Environmental locus
4. Resources
5. Technology
6. Human organization
7. Ideological system

b. Regional Comparisons

1. Introduction
2. North American Arctic
3. Pacific Northwest Coast
4. Tierra del Fuego
5. Oceania
6. Student presentations - Oceania and Asia
7. Student presentations - Africa and Madagascar
8. Student presentations - South America and Mediterranean
9. Student presentations - Europe
10. Summary and review

3. Spring Term

a. Introduction

1. Student papers
2. Coordination with Public Speakers Program

b. Man in the Marine Environment: An Overview

c. Wildlife and Environmental Quality

d. Man's Relation to the Seashore Interface

e. Public Goals Implementation through Law and Public Action

f. Aboriginal Man's Relationship to the Marine Environment

g. Changing Values and Their Implications for Environmental Management

h. Oral Traditions and the Sea

i. Economy vs. Environment

B. Photo Credits

Page	Credit
4	Ben A. Moore, O.S.U., Anthropology
5	James Hayden, O.S.U., Graduate Student
6	Courtland L. Smith, O.S.U., Anthropology
6	Courtland L. Smith, O.S.U., Anthropology
7	Betty Abel, O.S.U., Graduate Student
8	Courtland L. Smith, O.S.U., Anthropology
9	Thomas C. Hogg, O.S.U., Anthropology
19	Courtland L. Smith, O.S.U., Anthropology
20	Gwil Evans, O.S.U., Sea Grant Information
21	Courtland L. Smith, O.S.U., Anthropology
21	Thomas C. Hogg, O.S.U., Anthropology
22	James Hayden, O.S.U., Graduate Student
22	Courtland L. Smith, O.S.U., Anthropology
23	Thomas C. Hogg, O.S.U., Anthropology
23	Ben A. Moore, O.S.U., Anthropology